

What is claimed is:

1. An aircraft skin lap router apparatus, comprising:

a guide, fastened to the skin by fasteners drilled through the skin;

a platform, mounted on the guide;

5 a router having a vertical adjustment, mounted on the platform; and

a vacuum fitting, mounted on the platform, wherein an operator adjusts the router vertical adjustment for a desired depth-of-cut on the aircraft skin lap, the router cuts the skin lap, and removes debris via the vacuum fitting.

10 2. The apparatus of Claim 1, wherein a vertical height setting may be

made within one-thousandth of an inch using the router vertical adjustment.

15 3. The apparatus of Claim 1, wherein the router is selected from the

group consisting of a pneumatic router and an electric router.

4. The apparatus of Claim 1, wherein the router has a speed

adjustment.

20 5. The apparatus of Claim 1, further comprising an end mill attached

with the router.

25 6. The apparatus of Claim 5, wherein the end mill is a 0.250", three-

fluted end mill.

7. The apparatus of Claim 1, further comprising grips on the router.

30 8. The apparatus of Claim 1, wherein the guide is a plastic material

and is formed to a uniform height and width.

9. The apparatus of Claim 8, wherein the guide is a nylon profile.

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10. The apparatus of Claim 1, further comprising at least one bearing mounted on the platform and interfacing with the guide.
- 5 11. The apparatus of Claim 3, further comprising air fittings attached to the platform for receiving air from an air supply and for delivering air to a pneumatic router.
12. A sheet metal router apparatus, comprising:
a guide, fastened to the sheet metal by fasteners drilled through the sheet metal;
a platform, mounted on the guide; and
a router having a vertical adjustment, mounted on the platform, wherein an operator adjusts the router vertical adjustment for a desired depth-of-cut and moves the platform continuously along the guide to make a desired cut.
13. The apparatus of Claim 12, wherein a vertical height setting may be made within one-thousandth of an inch using the router vertical adjustment.
14. The apparatus of Claim 12, further comprising a vacuum fitting mounted on the platform.
15. The apparatus of Claim 12, wherein the router is selected from the group consisting of a pneumatic router and an electric router.
16. The apparatus of Claim 12, wherein the router has a speed adjustment.
17. The apparatus of Claim 12, further comprising an end mill attached with the router.

18. The apparatus of Claim 17, wherein the end mill is a 0.25", three-fluted end mill.
- 5 19. The apparatus of Claim 12, wherein the guide is a plastic material formed to a uniform height and width.
- 10 20. The apparatus of Claim 12, further comprising at least one bearing mounted on the platform and interfacing with the guide.
- 15 21. The apparatus of Claim 15, further comprising air fittings attached to the platform for receiving air from an air supply and for delivering air to a pneumatic router.
- 20 22. An aircraft skin lap router apparatus, comprising:
 a nylon guide, fastened to the skin by fasteners drilled through the skin;
 a platform, mounted on the guide, the platform interfacing with the guide through at least one bearing;
 a router having a vertical adjustment within one-thousandth of an inch, mounted on the platform, said router having at least two hand grips and a speed adjustment, and adapted to receive a source of power;
 an end mill mounted removably on the router; and
 a vacuum fitting, mounted on the platform, wherein an operator adjusts the router vertical adjustment for a desired depth-of-cut on the aircraft skin lap, the router cuts the skin lap, and removes debris via the vacuum fitting.
- 25 23. The router apparatus of Claim 22, wherein the source of power is electric or pneumatic.
- 30 24. A sheet metal router apparatus, comprising:
 a nylon guide, fastened to the sheetmetal by fasteners drilled through the sheetmetal;

a platform, mounted on the guide, the platform interfacing with the guide through at least one bearing;

5 a router having a vertical adjustment within one-thousandth of an inch, mounted on the platform, said router having at least two hand grips and a speed adjustment, and adapted to receive a source of power;

an end mill mounted removably on the router; and

10 a vacuum fitting, mounted on the platform, wherein an operator adjusts the router vertical adjustment for a desired depth-of-cut, moves the platform continuously along the guide to make a desired cut, and removes debris via the vacuum fitting.

15 25. The router apparatus of Claim 24, wherein the source of power is electric or pneumatic.